

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003374**Date Inspected:** 12-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Lv Yun**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Assembly**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Robert H. Vatcher, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

OBG Bay 1

Caltrans Quality Assurance (QA) Inspector, Mr. Robert Vatcher, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Orthotropic Box Girder (OBG) Fabrication

QA arrived at OBG Bay 1 at 0000 hrs. for the purpose of witnessing Production Monitoring Tests (PMT) in accordance with WPS B T 2342 U1 (Urib) -3 combination GMAW

/ SAW on closed rib deck plates. Gantry number 1 will be utilized for these tests conducted on this date. As well these PMT's will be directly associated with Deck Plates DP 198-001 & DP332-002. Tacking and magnetic particle (MT) was performed prior to QA arrival. QA had been in contact with QC representative Fu by phone at 2300 hrs. and no mention of the previous operations were stated. QA did observe that all three sections equaling to a total of six welds had intimate contact between the closed rib plates and the associated base plate material.

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Measured parameters were as follows;

GMAW

	AMPS	VOLTS	Travel Speed
1.	368	30.0	540 mm
2.	380	30.2	Per Minute
3.	369	30.0	Constant
4.	375	31.0	
5.	373	30.5	
6.	360	30.2	

Grinding of the root passes commenced at this time.

SAW

	AMPS	VOLTS	Travel Speed
1.	680	25.0	515 mm
2.	690	25.0	Per Minute
3.	680	25.2	Constant
4.	690	25.0	
5.	690	25.0	
6.	695	24.5	

Visual- QA observed ZPMC QC personnel Sun Wai and ABF/ Flour QC Lv Yun perform a visual examination (VT) on DP 198-001 & DP332-002 represented specimens. As well QA performed a visual exam of all six welds. QA concurred with QC assessment that all six joints appeared to conform to the contract documents.

0140 Ultrasonic Testing (UT) commences & observed by QA. ZPMC UT personnel Xu Hai performed UT for depth of penetration. Xu Hai accepted all six joints.

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QA observes QC representative Lv Yun conduct measure of the macro etched specimens

198/332-1-1 198/332-3-2 198/332-5-3
198/332-1-2 198/332-3-3 198/332-6-4
198/332-1-3 198/332-4-4 198/332-6-5
198/332-2-4 198/332-4-5
198/332-2-5 198/332-5-1
198/332-3-1 198/332-5-2

All were accepted by Lv Yun. QA conducted a random measurement of all the specimens utilizing a loupe with a straight edge line and (10) 1.0 mm increments, concurring with the QC assessment and concluded that all the specimens had a depth of penetration greater than 10.0 mm.

The above mentioned as observed by QA appear to be in conformance with the contract documents.

Summary of Conversations:

No relevant conversations this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco 138-1694-2685, who represents the Office of Structural Materials for your project.

Inspected By:	Vatcher,Robert	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
